

What is claimed is:

1. An image forming apparatus comprising:  
a registration device that is capable of  
5 registering at least one job;  
an image forming device that performs image  
formation according to the at least one registered job;  
and  
an action object-detecting device that detects  
10 action objects on which actions necessary for the image  
forming apparatus should be taken.
2. An image forming apparatus as claimed in  
claim 1, wherein:  
the at least one job should be executed within a  
15 predetermined time period;  
said action object-detecting device comprises an  
adjustment item-detecting device that detects items of  
adjustment to be executed for the image forming  
apparatus as the action objects, from contents of the  
20 at least one registered job; and  
the image forming apparatus further comprises a  
display device that displays an adjustment table  
describing the items of adjustment detected by said  
adjustment item-detecting device, an adjustment item-  
25 selecting device that selects at least one item of  
adjustment on which adjustment should be executed, from  
the items of adjustment described in the adjustment

table displayed by said display device, and an adjustment executing device that executes adjustment on the at least one item of adjustment selected by said adjustment item-selecting device.

5        3. An image forming apparatus as claimed in claim 2, further comprising an output device that outputs contents of the adjustment table displayed by said display device.

10       4. An image forming apparatus as claimed in claim 2, further comprising an adjustment contents-storing device that stores contents of the adjustment executed by said adjustment executing device.

15       5. An image forming apparatus as claimed in claim 2, to which a post-processing apparatus is connected, and wherein the items of adjustment include items of adjustment for the post-processing apparatus.

6. An image forming apparatus as claimed in claim 1, wherein:

20       the at least one job comprises a plurality of jobs; said action object-detecting device comprises a discriminating device that is operable when all of the at least one registered job are executed, to discriminate between items which require execution of maintenance and items which do not require execution of maintenance from items of maintenance for the image forming apparatus as the action objects; and

25       the image forming apparatus comprises a display

device that displays the items which require execution of maintenance and the items which do not require execution of maintenance in respective different manners of display according to results of the discrimination by said discriminating device, and a permitting device that permits start of execution of the at least one registered job upon completion of maintenance on the items which require execution of maintenance.

10        7.    An image forming apparatus as claimed in claim 6, wherein one of the different manners of display comprises shading in gray the items.

8.    An image forming apparatus as claimed in claim 6, wherein:

15        said image forming device comprises a plurality of image forming devices; and

the image forming apparatus further comprises a control device that controls said action object-detecting device, said display device, and said permitting device such that when said registration device registers the at least one job, an image forming device which should execute image formation according to each of the at least one job is selectively set from said plurality of image forming devices, and the start of execution of the job is permitted in association with the set image forming device.

20        9.    An image forming apparatus as claimed in

claim 8, further comprising a management device connected to the plurality of image forming devices for management thereof, and

wherein said management device has incorporated  
5 therein said registration device, said action object-detecting device, said display device, said permitting device, and said control device.

10. An image forming apparatus as claimed in claim 1, wherein:

10 the at least one job comprises a plurality of jobs; said action object-detecting device comprises a counting device that counts a number of times of image formation by said image forming device, an endurance limit count-holding device that holds an endurance  
15 limit number of times of operation associated with each of components provided in the image forming apparatus, an image formation number-of-time estimating device that estimates a count value by said counting device when all of the at least one registered job are to be  
20 executed, as an estimated number of times of image formation, and a discriminating device that compares the estimated number of times of image formation estimated by said image formation number-of-time estimating device with the endurance limit number of  
25 times of operation held by said endurance limit count-holding device, and discriminates, based on results of the comparison, between components of which the

endurance limit number of times of operation exceeds the estimated number of times of image formation and components of which the endurance limit number of times of operation does not exceed the estimated number of  
5 times of image formation; and

the image forming apparatus further comprises a display device that displays items indicative of the components of which the endurance limit number of times of operation exceeds the estimated number of times of  
10 image formation and items indicative of the components of which the endurance limit number of times of operation does not exceed the estimated number of times of image formation, in respective different manners of display according to results of the determination by  
15 said determining device, and a permitting device that permits start of execution of the at least one registered job, when maintenance of the components of which the endurance limit number of times of operation does not exceed the estimated number of times of image  
20 formation has been completed.

11. An image forming apparatus as claimed in claim 10, wherein one of the different manners of display comprises shading in gray the items.

12. An image forming apparatus as claimed in  
25 claim 10, wherein:

said image forming device comprises a plurality of image forming devices; and

the image forming apparatus further comprises a control device that controls said action object-detecting device, said display device, and said permitting device such that when said registration  
5 device registers the at least one job, an image forming device which should execute image formation according to each of the at least one job is selectively set from said plurality of image forming devices, and the start of execution of the job is permitted in association  
10 with the set image forming device.

13. An image forming apparatus as claimed in claim 10, further comprising a management device connected to the plurality of image forming devices for management thereof, and  
15 wherein said management device has incorporated therein said registration device, said action object-detecting device, said display device, said permitting device, and said control device.

14. An image forming apparatus as claimed in  
20 claim 2, wherein:

the at least one job comprises a plurality of jobs; the image forming apparatus further comprises a process configuration device that performs configuration of processes by the image forming device  
25 according to a mode associated with each of the at least one job; and

said action object-detecting device comprises a

measuring device that measures an ambient environment value representative of an ambient environment of said image forming device, a holding device that holds the ambient environment value measured by said measuring  
5 device when said process configuration device performs the configuration of the processes, in association with the processes configuration, and a determining device that compares the ambient environment value held by said holding device in association with the  
10 configuration of the processes by said process configuration device for each of the at least one registered job with the ambient environment value measured by said measuring device, and determines, based on results of the comparison, whether or not it  
15 is necessary to re-configure the processes, as the action objects, already configured for each of the at least one registered job; and

the image forming apparatus further comprises a display device that displays respective items  
20 indicative of process configurations associated with the at least one registered job in respective different manners of display according to results of the determination by said determining device, and a permitting device that permits start of execution of  
25 the at least one registered job, when configuration of the processes for jobs which require re-configuration of the processes already configured has been completed.

15. An image forming apparatus as claimed in claim 1, wherein out of the items indicative of the process configurations associated with the at least one registered job, said display device causes items  
5 indicative of process configurations which do not require re-configuration, to be shaded in gray.

16. An image forming apparatus as claimed in claim 14, wherein:

said image forming device comprises a plurality of  
10 image forming devices; and

the image forming apparatus further comprises a control device that controls said action object-detecting device, said display device, and said permitting device such that when said registration  
15 device registers the at least one job, an image forming device which should execute image formation according to each of the at least one job is selectively set from said plurality of image forming devices, and the start of execution of the job is permitted in association  
20 with the set image forming device.

17. An image forming apparatus as claimed in claim 16, further comprising a management device connected to the plurality of image forming devices for management thereof, and

25 wherein said management device has incorporated therein said registration device, said action object-detecting device, said display device, said permitting



device, and said control device.

18. An image forming apparatus as claimed in claim 1, wherein:

the at least one job comprises a plurality of  
5 jobs;

the image forming apparatus comprises a plurality of sheet feeding devices that feed sheets to said image forming device, and a switching device that switches between said sheet feeding devices according to a mode  
10 associated with each of the at least one registered job;

said action object-detecting device comprises sheet feeding number-of-time counting devices that are provided in association with respective ones of said  
15 sheet feeding devices, for counting numbers of times of sheet feeding from said sheet feeding devices, detecting devices that are provided in association with respective ones of said sheet feeding devices, for detecting respective numbers of sheets contained in  
20 said sheet feeding devices, and a discriminating device that compares, for respective ones of said sheet feeding devices used when all of the at least one registered job are executed, the respective numbers of sheets with respective required numbers of times of  
25 sheet feeding to be counted by a corresponding one of said sheet feeding number-of-time counting devices, and based on results of the comparison, discriminates ones

of said sheet feeding devices of which the respective numbers of sheets, as the action objects, are smaller than the respective required numbers of sheets, and ones of said sheet feeding devices of which the  
5 respective numbers of sheets are equal to or larger than the respective required numbers of sheets; and  
the image forming apparatus comprises a display device that displays items indicative of the ones of the sheet feeding devices of which the respective  
10 numbers of sheets are smaller than the respective required numbers of sheets, and items indicative of the ones of the sheet feeding devices of which the respective numbers of sheets are equal to or larger than the respective required numbers of sheets, in  
15 respective different manners of display according to results of the discrimination by said discriminating device, and a permitting device that permits start of execution of the at least one registered job, when replenishment of sheets to the ones of the sheet  
20 feeding devices of which the respective numbers of sheets are smaller than the respective required number of sheets, is completed.

19. An image forming apparatus as claimed in claim 18, wherein one of the different manners of  
25 display comprises shading in gray the items.

20. An image forming apparatus as claimed in claim 18, wherein:

said image forming device comprises a plurality of image forming devices; and

the image forming apparatus further comprises a control device that controls said action object-  
5 detecting device, said display device, and said permitting device such that when said registration device registers the at least one job, an image forming device which should execute image formation according to each of the at least one job is selectively set from  
10 said plurality of image forming devices, and the start of execution of the job is permitted in association with the set image forming device.

21. An image forming apparatus as claimed in claim 20, further comprising a management device  
15 connected to the plurality of image forming devices for management thereof, and

wherein said management device has incorporated therein said registration device, said action object-  
detecting device, said display device, said permitting  
20 device, and said control device.

22. An image forming system comprising:  
at least one image forming apparatus;  
a management apparatus connected to said at least one image forming apparatus for communication  
25 therebetween, for managing said at least one image forming apparatus;

a registration device that is capable of

registering at least one object to be executed by said  
at least one image forming apparatus;

an image forming device that performs image  
formation according to each of the at least one job  
5 registered by said registration device; and

an action item-detecting device that detects items  
of actions necessary for performing the image formation.

23. An image forming system as claimed in claim  
22, wherein:

10 the at least one job should be executed within a  
predetermined time period;

said action item-detecting device comprises an  
adjustment item-detecting device that detects items of  
adjustment to be executed for the image forming  
15 apparatus as the action objects, from contents of the  
at least one registered job; and

the image forming apparatus further comprises a  
display device that displays an adjustment table describing  
the items of adjustment detected by said adjustment item-  
20 detecting device, an adjustment item-selecting device that  
selects at least one item of adjustment on which adjustment  
should be executed, from the items of adjustment described  
in the adjustment table displayed by said display device,  
and an adjustment executing device that executes adjustment  
25 on the at least one item of adjustment selected by said  
adjustment item-selecting device.